Centre for
Resource Studies

Queen's University
Kingston, Ontario

Centre for Resource Studies

Annual Report

1982-83

Centre for
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Queen's University
Kingston, Ontario

Annual Report for the Period 1 May 1982 — 30 April 1983

Centre for Resource Studies

Origins and Objectives

The Centre is a cooperative research institute established at Queen's University in 1973. Sponsored jointly by the university, The Mining Association of Canada and the federal Department of Energy, Mines and Resources, its function is to improve understanding of the complex questions underlying issues of mineral resource policy (excluding oil and gas). The purposes of the Centre are accomplished through a program of research and publication, and by providing opportunities for liaison between representatives of federal and provincial governments, the industry, universities and other interested groups.

Summary of Activities 1975-83

In 1975, a multi-disciplinary research program was launched on the national impact of mining, to study the effects of the mining industry on the economy and on other aspects of Canadian society. This program was completed in 1978.

Late in 1976 a second major research thrust was undertaken, with the objective of examining the mineral-related policies and programs of the federal and provincial jurisdictions in Canada. Studies arising from both programs have been published as monographs and working papers, the first appearing in 1976. As of April 1983, thirteen monographs and twenty-six working papers have been published. In 1981, a new series of publications, entitled Technical Papers, was introduced and two were published during the year. In addition, fourteen issues of CRS *Perspectives* have been distributed to our mailing list of approximately 3,500 names.

Over the current year, CRS staff and associates began four new projects and continued work in other areas. Outside researchers initiated two new studies and continued with six from previous years.

In 1977 the Centre held the first of a series of CRS Policy Discussion Seminars. Each seminar brings together, in a constructive working environment, representatives of a diversity of interests to discuss a topic of current policy concern. Each gives rise to a set of proceedings which contains the text of papers presented at the seminar, as well as a digest of discussion. Eleven seminars have been held up to April 1983.

The Centre has continued its activities in contract research, carrying out projects for the federal and provincial governments. Phase II of the Ontario Mining Statistics project was completed and published. The statistics program begun for the B.C. government is awaiting further funding. The economic evaluation of CANMET's pit slope project has been completed.

In 1980 the Centre, along with Queen's Institute of Local Government, received a grant from the Donner Canadian Foundation for a study of the potential impact of the land claims of the Inuit Tapirisat of Canada (ITC) on local government and on mineral development in the Northwest Territories. This research, entitled 'The Eastern Arctic Study', has been completed. A number of trips to northern administrative centres, mineral developments, and communities in the ITC claim area were made in the course of the study. An advisory committee made up of representatives of ITC, the federal and territorial governments, development interests, and other interested parties met formally twice, and has been consulted on an *ad hoc* basis as needs arise. This committee, in addition to aiding the research, proved to be a very effective means of achieving the Centre's purpose of facilitating communication among a wide range of groups interested in Canadian mineral policy.

Further details of CRS activities may be found in later sections of this report. The Interim Executive Director and Board of Directors wish to acknowledge the contribution of CRS staff, associates, and committee members. Without their strenuous efforts and generous allocation of time, the accomplishments of the past year would not have been possible.

1982-83 Activities of the Centre

The Centre for Resource Studies has continued with its program of research and communication through 1982-83, seeking to balance its long-term research effort in understanding the nature, activities, and policy environment of the Canadian mineral industry with shorter-term responses to some of the urgent policy issues and problems facing the industry at this time.

Long-term research projects that were completed over the year include phase II of the Ontario Mining Statistics project, the inventory of federal and provincial mineral resource policies for 1945-75, and the 1981 mineral policy update. The Ontario Mining Statistics project completed work on providing continuous series on mineral production by commodity in Ontario, some dating back into the 19th century. Both input and output data are presented in comparable form, providing basic data for a broad range of research and analysis. The mineral policy inventory and update provide a background of understanding of mineral policy positions and trends in all jurisdictions in Canada.

The CRS seminar on 'Mineral Policy Formulation: the Role of Scientific and Technical Knowledge', looked at the role of technically-trained mineral experts in the formulation of mineral policies, and the decline of influence of this group over the last few decades. This is a matter of considerable significance for the design of national mineral policies over the long term. Brian Mackenzie's evaluation of the technology transfer benefits of CANMET's pit slope project also has long-term implications for technically-oriented policies that can enhance the competitive position of the industry.

The declining market share of the Canadian mineral industry has led to an increased interest in international marketing; in this direction, three studies were completed. Patrick Caragata's study of National Resources and International Bargaining Power looks at Canada's strengths and weaknesses in dealing with the purchasors of its minerals. Professor Stollery's study of Secondary Supply of Selected Metals investigates the relationships between scrap and primary metal markets for copper and ferrous metals in North America. The study of potash cartels by Professors Olewiler and Flatters evaluates the recent performance of the international potash industry, with particular reference to the activities of the Saskatchewan government.

A second area of crucial and current importance to the Canadian mineral industry is investment climate. Professor Anderson's study of Foreign Investment Control draws on the experiences of the Australian system of foreign investment control to make recommendations about changes and improvements to Canada's Foreign Investment Review Act. A policy discussion seminar was held on the subject of Financing for Survival, which led to recommendations to government, the mineral industry, and financial institutions on areas for action and for further research to improve the industry's access to capital. Discovery of new economic mineral targets was identified by the seminar participants as a crucial need to attract new investment to the industry. Brian Mackenzie and Michel Bilodeau drew on their data base of nonferrous mineral deposits to prepare a paper on this latter topic for presentation to the Prospectors and Developers Association, setting out techniques for determining whether a given mineral discovery should be considered an economic deposit.

The Eastern Arctic Study was completed during 1982, and a final report drafted. This study looked at the implications of political change and land claim negotiations for mineral development in the Northwest Territories. The regulatory regime that eventually emerges from these changes will affect the economics of mineral recovery and therefore both the climate for investment and the competitive position of projects in the region.

Two studies with an international trade orientation are Stephen Salaff's investigation of uranium markets in the Pacific Basin, and Owen Saunders' study of tariff and nontariff barriers to Canadian mineral exports, in relation to international agreements such as GATT and UNCTAD.

The major portion of ongoing projects during the year looked at issues affecting the political and economic environment of the mineral industry in Canada. The mineral policy update continued its coverage of current programs and policy changes in all jurisdictions in Canada. Professor Black's in-depth study of the politics of acid rain in Ontario will provide a more complete understanding of the issues and pressures affecting the regulation of smelter emissions in the province. In the Northwest Territories, Margot Wojciechowski's study looks at the mineral potential of the new eastern territory which will be created if the proposed division occurs.

At the federal level, Bruce Doern is investigating the origins of Crown corporation activities in the mineral industry, and David Yudelman draws on published and unpublished responses to EMR's 1981 mineral policy document to analyze the responses of the mineral industry to the federal policy proposals. In response to the recent decision of the Department of Finance to tax nonsalary benefits paid to employees at northern and isolated locations, CRS staff are looking at the evolution of this decision, and its implications for northern operations.

Elizabeth Urquhart is investigating the foreign investment activities of Canadian nonferrous mineral companies, looking at both stocks and flows over the period since 1965. This study will provide some insights into changing perceptions of the mineral industry regarding the investment climate in Canada.

An excellent example of the use of long-term data bases for analytical research is the study of productivity in gold and iron ore mining in Ontario by Alan Green. This study draws on the data series prepared by CRS for the Ontario government to do useful analyses that previously would have been impossible.

In addition to this program of formal research and seminars, CRS also provides ongoing advice and commentary through its newsletter, CRS *Perspectives*, and through consultations, presentations, and the media.

In April 1983, in recognition of his contributions to the field of mineral economics over many years and in several countries, Dr. Brian Mackenzie of CRS was presented with the Robert Elver Award for Research in Mineral Economics by the Canadian Institute of Mining and Metallurgy.

Research and Publications

Research Completed

Ontario Mining Statistics Phase II: Alan Green and Ann Green, Department of Economics, Queen's University. Like phase I, this project was funded by the Ontario Ministry of Natural Resources. Phase II updated, backdated and otherwise expanded the Ontario mineral production data series that were published in Phase I, and also added new series, including one on indirect costs of production, that were collected especially for this study. The publication has recently been released by the Ontario government.

Eastern Arctic Study: Katherine Graham et al., Institute of Local Government, Queen's University, and Margot Wojciechowski, Centre for Resource Studies. This study was funded by the Donner Canadian Foundation. The researchers looked at three strong sources of political change in the Northwest Territories: constitutional change; the possibility of division of the NWT; and the land claims negotiations of the Inuit Tapirisat of Canada. The implications of these forces were evaluated for local government and for mineral development in the NWT. A number of background and case studies have been published, and a final report has been drafted.

Mineral Technology Transfer: Evaluation of the Canmet Pit Slope Project: Brian W. Mackenzie and Rimas Pakalnis, Centre for Resource Studies. This study was funded by Canmet. It looks at the $5-million pit slope project, a cooperative effort of the federal government and the private sector, which was intended to provide a rational engineering approach to the design of mine slopes with particular emphasis on open pit mines in Canada. The study provides a cost-benefit analysis of the project, focusing attention on the 20-25 largest Canadian open pit mining operations. Smaller operations and other relevant interest groups were surveyed somewhat less intensively. These cases document the process of technology transfer which was used in each instance, and the economic benefits and costs resulting from the project. Results are generalized for the nonferrous mining sector so that longer-term economic effects can be assessed, and recommendations can be made regarding technology transfer in future research efforts.

Foreign Investment Control in the Canadian Mineral Sector: David Anderson, Faculty of Administration, University of Regina. This study investigated the attitudes and legislation governing foreign investment control in Canada. It also gives an in-depth look at the origins, evaluation and present operations of the Australian system of control. Drawing on an evaluation of the Australian system, the author makes recommendations for changes in the Canadian system.

National Resources and International Bargaining Power: Options for Canadian Mineral Policy: Patrick J. Caragata, Manager, International Policy, Canadian Chamber of Commerce. The study looks at Canada's strengths and weaknesses in dealing with the nations that purchase Canada's mineral exports, and at options for improving our international bargaining power.

An Inventory of Federal and Provincial Mineral Resource Policies: Ronald Murray, OHIP, Government of Ontario. The inventory consists of a listing of federal and provincial policies related to the mineral industry for the period from 1945 to 1975. These are found in a variety of fields such as taxation, transportation, trade, national ownership, employment, health, research and development, regional development, industrial development, environmental protection, and social and cultural fields. Policy inventories for separate jurisdictions have been published as working papers and an integrative publication may follow.

Secondary Supply of Selected Metals: Ken Stollery, Department of Economics, University of Waterloo. The study examines the structure of secondary markets for copper and ferrous metals and their interrelationships with the market for primary metals. The main questions investigated relate to the extent of the control of secondary production exercised by either primary metal producers or the major metal customers. The study further attempts to indicate the effect that secondary markets have had on price in the overall metal market. The manuscript has been received and revised, and is in the process of publication.

Potash: The International Industry and the Stability of Cartels: Nancy Olewiler and Frank Flatters, Queen's University. The objective of the research was first, to construct a framework appropriate for the analysis of industry behaviour and government policy in exhaustible resource industries, and second, to use this framework to evaluate the recent performance of the international potash industry with particular reference to the policy positions taken by the Saskatchewan government. The paper was presented at the AIME meeting in Atlanta in March 1983.

Economic Exploration Targets: Brian W. Mackenzie, Centre for Resource Studies, and Michel Bilodeau, Dept. of Mining Engineering, McGill University. This study describes the techniques for determining, on a discounted cash flow basis, whether a given mineral discovery should be considered an economic deposit. It also looks at the effects of variables such as commodity prices and tax regimes on the economic viability of known base metal deposits in Canada. The paper was presented at the PDA meeting in Toronto in March 1983.

Financing for Survival: David Yudelman, Centre for Resource Studies. This research led to a CRS seminar in March 1983 at which a number of researchers and active participants in mineral industry financing presented and discussed papers on the topic. The papers along with analysis and conclusions will be published by CRS.

Research in Progess

Foreign Direct Investment by the Canadian Nonferrous Metal Industry: Elizabeth Urquhart, independent researcher. This is a systematic study of direct investments made abroad by Canadian nonferrous mining companies. It will include both stocks and flows of all foreign direct investments related to mining, such as exploration, mining, refining, processing and marketing, as well as investments in other sectors such as manufacturing. Case studies of the foreign investment activities of some of the major firms may also be included.

The Effects of Mineral Rights and Leases on the Exploration and Extraction Decisions of the Mineral Industry: Nancy Olewiler, Department of Economics, Queen's University. The study analyzes the impact of mineral rights and leases on both the decision of a mineral firm to invest in exploration and its rate of extraction of minerals. The approach involves the formulation of economic models of the resource firm's optimal rate of investment and extraction under uncertain resource ownership, then tests the validity of the model's predictions by examining some cases of changes in leases and rights in Canada.

The Politics of Environmental Regulation: The Case of Acid Rain in Ontario: E.R. Black, Department of Political Studies, Queen's University. This study looks at the present extent of environmental regulation of acid rain by the Government of Ontario. It will provide a more complete understanding of the phenomenon of 'acid rain', of attitudes toward its regulation, and of the present extent of its regulation, along with an explanation of the current policy situation and the limits of change.

Uranium Commerce in the Pacific Basin: Stephen Salaff, Toronto, Independent researcher. The researcher is studying the policy implications and options for Canadian uranium producers and governments arising from evolving commercial arrangements in the Pacific Basin. The general research objective is i) to improve understanding of the trans-Pacific aspects of commercial arrangements for the mining, processing and marketing of uranium in North Amercia, Australia and elsewhere around the Pacific Rim: and ii) to explore ways in which the remarkable degree of resource interdependence between Canada and its Pacific Basin partners may be better incorporated into policy measures. Several papers have already been published in trade journals.

Mineral Policy Update 1982: Margot J. Wojciechowski and Cydney E. McMurray, Centre for Resource Studies. This report presents a catalogue of annual mineral policy and program changes and highlights in Canada. Innovations and policy changes are emphasized, rather than ongoing programs, and areas of concern will be identified. Jurisdictions covered will consist of the federal government, the territories, and all provinces except Prince Edward Island. There will be a common base of information available for all jurisdictions, covering topics such as budgets changes and new legislation. In addition, specific events and policy directions will be considered within each jurisdiction. A 1981 update has been published, and a draft has been circulated for the 1982 calendar year.

Trade Negotiations and the Canadian Mineral Industry: Owen Saunders, Canadian Institute for Resources Law, University of Calgary. This study investigates tariff and non-tariff barriers to trade in Canadian minerals, with relation to international agreements such as GATT and UNCTAD.

Origin of Public Corporations in the Canadian Mineral Industry: Bruce Doern et al., School of Public Administration, Carleton University. This study investigates the origins of Crown corporations and other public ventures in the Canadian mineral industry, and looks at the extent and nature of such activities.

Productivity in Gold and Iron Mining in Ontario: Alan Green, Department of Economics, Queen's University. This study draws on the data series prepared by the author and published by the Province of Ontario, to evaluate productivity changes in these two mineral sectors.

Industry's Response to EMR's Mineral Policy Discussion Paper: David Yudelman, Centre for Resource Studies. Dr. Yudelman draws on both published and unpublished responses to EMR's 1981 paper from representatives of the Canadian mineral industry to analyze the nature of the reaction from industry, both initially and over the following year and a half.

Taxation of Northern Employee Benefits: Brian Mackenzie and Margot Wojciechowski, Centre for Resource Studies. This study indentifies the nonsalary benefits that were taxable but untaxed until the late 1970s, and the efforts of National Revenue and the Department of Finance to deal with the two competing goals of equality in taxation and encouragement of northern development.

The Impact of Division of the NWT on Mineral Development: Margot Wojciechowski, Centre for Resource Studies. Drawing on the findings of the Eastern Arctic Study and related research, this study will look at present and potential mineral developments that will be located in a new eastern territory, some of the unique characteristics of the proposed new territory, and the likely political and regulatory regime.

New Publications

The following new publications arising from the CRS research program were released during 1982-83.

Working Paper No. 26, *Effects of Public Policy on Investment Demand*, by Brian Mackenzie and C.H. Pye, appeared in November. It examines the extent to which changing tax policies affect the propensity to invest in Canadian base metal mining. The authors cite a number of factors that warrant detailed study for mineral policy analysis and design of tax systems.

Mineral Policy Update 1981, by Margot Wojciechowski and Cydney McMurray, was the first issue of a new series. It is a compendium of policy initiatives from both provincial and federal governments, covering socio-economic, environmental, marketing, and other government activities. It is designed as a reference manual for corporate planners, government officials, researchers in mineral economics. Reviews have so far appeared in the Northern Miner, the CIM Bulletin and the PDA Record.

Proceedings No. 12, *Acid Rain Controls and the Economics of the Canadian Nonferrous Metals Industry*, appeared in June and contains the proceedings of the 10th CRS Policy Discussion Seminar. It contains papers by Jacques Gerin, W.G. Deeks, P.R. Clarke, Harold Fargey, J.B. Hyne, Brian W. Mackenzie, and E.J. Ward.

Proceedings No. 13, *Mineral Policy Formulation: The Role of Scientific and Technical Knowledge* contains the proceedings of the 11th CRS Policy Discussion Seminar. It appeared early in March 83. The seminar was sponsored jointly by the Carnegie Institution of Washington and the Centre. Papers for the most part signal the declining role of geologists and scientists in the formulation of mineral policy and suggest ways of dealing with the situation. Included among the authors are George Jewett, Herbert Drechsler, Philip G. Halkett, David Bond, D.C. Findlay, L.G. Bonar, Dallas Davis, W.G. Jewett, and Jan Zwartendyck.

An article by David Yudelman appeared in the *Financial Post*, January 8, 1983 entitled 'Mineral Policy Fails Key Tests'. This was essentially a critique of Energy, Mines and Resources' 'Mineral Policy: A Discussion Paper'.

The Eastern Arctic Study wrapped up its work with the completion of the Baker Lake and Beaufort Sea case studies as well as a bibliography and a draft of the final report.

A complete list of CRS publications is given at the end of the report.

CRS Policy Discussion Seminars

The CRS Policy Discussion Seminars are designed to bring together senior individuals from federal and provincial governments, corporations, universities, trade unions, and other interested groups to discuss current mineral policy issues. The informal atmosphere is conducive to the free exchange of views. In a typical two-day session, six or eight papers present background information on the issue. Subsequent discussion in small groups and open sessions allows the participants to develop a mutual understanding of the problem and of others' views, and to discuss potential solutions. The proceedings are published, including the papers and some analysis and conclusions.

In June 1982, a policy discussion seminar was held on the subject of 'Mineral Policy Formulation: The Role of Scientific and Technical Knowledge'. The seminar was jointly sponsored by the Carnegie Institution of Washington, as part of its larger study to define and strengthen the appropriate links between earth sciences and mineral policy by drawing on the collective experience of the United States and Canada. The following papers were presented:

Providing Policy Advice to Government: The Role of Scientific and Technical Knowledge, by George A. Jewett, Ontario Ministry of Natural Resources;
Role of Scientific and Technical Knowledge in Mineral Policy Formulation: An Industry Perspective, by Herbert D. Drechsler, HDD Resource Consultants;
The Widening Gap: The Loss of Technical Input in Policy Advice, by Philip G. Halkett, B.C. Ministry of Finance;
Providing Policy Advice to Central Planning Agencies: A Federal Viewpoint, by David E. Bond, Ministry of State for Economic and Regional Development;
Regional Mineral Resource Assessment, by D.C. Findlay, Geological Survey of Canada;
Government Involvement in Mineral Science and Technology, by W.G. Jeffery, Canada Centre for Mineral and Energy Technology;
Mineral Market Research and Strategies, by L. George Bonar, Falconbridge Ltd.;
Mine Development Agreements between Government and the Private Sector, by Dallas W. Davis, Consultant;
Monitoring and Assessing the Mineral Supply Process, by Jan Zwartendyk, Energy, Mines and Resources Canada.

Participants noted the declining role of scientists and engineers in mineral policy formulation over recent decades. They felt that mineral policies are suffering as a result of this trend, and suggested a number of ways in which it might be reversed.

In March 1983 the eleventh CRS Policy Discussion Seminar was held to discuss the subject of 'Financing for Survival in the Eighties: Strategies for Short and Long Term Action in the Canadian Mining Industry'. The following papers were presented or prepared as background material:

The Demand for Mine Finance: Some Canadian Problems and Perspectives, by Pat C. MacCulloch, Selco Inc. and David Yudelman, CRS;
Impact of Inflation on Mine Financing, by Basil A. Kalymon, Currie, Coopers & Lybrand;
Regulatory Frameworks and Their Impact on Resource Financing, by Brenton J. Bradly, Morgan Bank of Canada;
Financing the Future of the Canadian Mining Industry, by Ralph G.M. Sultan, Starlaw Holdings Limited;
Current Financing Techniques for the Mining Industry in the Canadian Capital Markets, by Peter Gillin, McLeod, Young, Weir;
Mine Finance: the Broad and the Long-Term Perspective, by Alfred Powis, Noranda Mines;
Investment Policies and the Canadian Mining Industry, by the Hon. Judy Erola, Minister of State (Mines);
A Statistical Perspective on the Financing of the Canadian Mining Industry, by Albert Dorland, Statistics Canada;
Developments in International Mining Finance, by Kathleen J. Murphy.

As a follow-up to the meeting, letters were sent to the ministers of Finance and Mines setting out courses of action that might be considered for government action to improve the industry's investment climate.

CRS Perspectives

Three issues of CRS *Perspectives* were published during the current year. *Perspectives* is an occasional bulletin that contains comment about the Canadian mineral industry, reviews, and news of CRS activities and publications. It generally consists of six pages, with two pages listing CRS publications, along with an order form. *Perspectives* is sent to the entire CRS mailing list of over 3,500 individuals and institutions interested in mineral policy issues.

Various aspects of mineral policy were discussed in the September and December issues by CRS researchers. The April issue contained an article by C. Law of the Canadian Institute of Guided Ground Transport, 'Canadian Mining and the Crow's Nest Pass', as well as a report of the recommendations of the eleventh CRS policy discussion seminar to the Ministers of Finance and Mines.

Financial Arrangements

The Centre disbursed $165,967 on administrative activities and $216,497 on research activities during the year.

Continuing financial support is received from The Mining Association of Canada and Energy, Mines and Resources. Each contributes $125,000 per year, of which $75,000 is designated for research. A total of $31,011 was recovered from the sale of publications, seminar registration fees, and other fees.

The Centre also seeks to serve the research needs of other agencies. In the current year, research support was received in the amount of $52,342 from agencies other than the Centre's permanent sponsors.

The Board of Directors

The Board consists of sixteen members. The Executive Director and the Advisory Council Chairman are ex-officio members. Of the remainder, four are appointed by The Mining Association of Canada, three by Energy, Mines and Resources Canada, and seven by the Principal of Queen's University. The Chairman is Mr. R.J. Hand, Vice-Principal (Resources), Queen's University.

The Board met twice during the year. At its meeting of 6 May 1982 the Board discussed a number of ongoing and potential research projects as well as the recommendations of the Advisory Council. At the meeting of 12 November 1982, the Board discussed various CRS staffing changes.

Members of the Board who retired in May 1982 were Dr. R.J. Uffen, Dr. J.D. Gibson, Mr. A. Powis and Dr. G. Hodge. New appointments were Mr. P. MacCulloch (Selco), and Dr. P.N. Calder (Queen's). Dr. R.J. Uffen and Dr. G. Hodge (Queen's) were reappointed for another term.

Members of the 1982/83 Board of Directors were as follows:

I.E. Bennett,
Department of Finance, Ottawa.
J.W. Berry,
Queen's University.
R.W. Boadway,
Queen's University.
J.L. Bonus,
The Mining Association of Canada.
W. Curlook,
Inco Metals, Toronto.
H.T. Fargey,
Cominco, Toronto.
A.J. Freyman,
Centre for Resource Studies
J.D. Gibson,
Corporate Director, Toronto.
R.J. Hand (Chairman),
Queen's University.
G.J. Hodge,
Queen's University.
W.G. Jeffery,
CANMET, Ottawa.
B.W. Mackenzie,
Centre for Resource Studies.
J.L. McPherson,
Placer Development Ltd., Vancouver.
C.G. Miller,
Energy, Mines and Resources, Ottawa.
E.R. Petersen,
Queen's University.
A. Powis,
Noranda Mines Ltd., Toronto.
R.A. Price,
Geological Survey of Canada.
R.J. Uffen,
Queen's University.

Advisory Groups

The Advisory Council

The Council currently has a membership of forty-seven. All researchers associated with the work of the Centre are appointed to membership for the duration of the research or a minimum of one year. Other members, representing not only governments, industry, and the professions, but also such interested groups as trade unions, consumers, and native peoples, are appointed for a three-year term. The functions of the Council are to advise the Board, primarily on the research program, and to act as advisors to the Centre's members.

The Council's annual meeting was held in Kingston on 7 April 1983 under the chairmanship of George A. Jewett. CRS staff and associates reported on current research activities, and Patrick Caragata spoke on Canada's weaknesses and stengths in international mineral markets. Dallas Davis was appointed chairman for 1983/84. Advisory Council members for 1982/83 were as follows:

D. L. Anderson,
University of Regina.
P.W. Andrews,*
Energy, Mines & Resources.
W.J. Barbour,
Noranda Mines Ltd.
F.C. Basham,*
Canadian High Commission, Canberra.
J.C. Beal,
Queen's University.
M. Bilodeau,
McGill University.
E.R. Black,
Queen's University.
J.L. Bonus,
The Mining Association of Canada.
K. Brewer,*
Energy, Mines & Resources.
P. Burnet,
Canadian Arctic Resources Committee.
P. Caragata,
International and Canadian Chambers of Commerce.
R.G. Connochie,
Rio Algom Limited.
*D.W. Davis** (Chairman, 1983/84),
Consultant, Fredericton.
G.B. Doern,
Carleton University.
A. Dorr,
Dept. of Industry, Commerce & Tourism, Quebec.
B. Felske,
Brian E. Felske & Associates.
J.M. Fleming,
Dept. of Mines and Energy, St. John's.
A.J. Freyman,*
Centre for Resource Studies
J. Garnett,
Department of Mines and Energy, Halifax.
K.A. Graham,
Queen's University.
A.G. Green,
Queen's University.
M.A. Green,
Queen's University.
I. Haugh,
Dept. of Energy and Mines, Winnipeg.
H.D. Hume,
Prospectors and Developers Association.
G.A. Jewett (Chairman, 1982/83),
Consultant, Toronto.
*R.J. Keyes** (Chairman, Research Advisory Committee),
Energy, Mines and Resources.
J. Lazerovich,
Indian Affairs and Northern Development Canada.
B.W. Mackenzie,*
Centre for Resource Studies.
W.H. Marsh,
United Mineworkers of America.
Cydney McMurray,
Centre for Resource Studies.
J. Nantel,*
Queen's University.
J.M. Newell,
Kidd Creek Mines Limited.
I. Nichol,
Queen's University.
K. O'Brien,
Inco Limited.
N.D. Olewiler,
Queen's University.
B. Partridge,
Cominco Ltd.
G.R. Peeling,*
Energy, Mines & Resources.
P. Richardson,
Queen's University.
S. Salaff,
Freelance Writer, Toronto.
O. Saunders,
Canadian Institute of Resources Law.

The Advisory Council (continued)

*R.E. Simeon**,
Queen's University.
C.H. Smith,
Consultant, Ottawa.
K. Stollery,
Waterloo University.
E. Urquhart,
Centre for Resource Studies.
E. Vallée,
United Steelworkers of America.
*M.J. Wojciechowski**,
Centre for Resource Studies.
*D.J. Worth**,
Canadian Imperial Bank of Commerce.
D. Yudelman,
Centre for Resource Studies.

* Also a member of the Research Advisory Committee

Research Advisory Committee

The Research Advisory Committee was formed in 1976 to advise the Board and Executive Director on research goals and priorities, and on the selection, formulation and direction of research projects. The committee decides on the allocation of grants-in-aid of research and advises on the award of research contracts. In 1981 the committee members all joined the Advisory Council of CRS as well. Under the chairmanship of Robert J. Keyes, the committee reviewed grant applications and project proposals both by mail and at meetings.

The committee generally has nine members (with additional alternates, as required) chosen from industry, government, and universities. For a list of members, see the Advisory Council Membership list above.

Personnel

Members of the Centre coordinate the program of contract research, carry out studies in-house, edit and produce the Centre's publications, organize seminars and meetings, and provide staff services to the Board and Advisory Council. Other related professional activities include participation in conferences and seminars, speaking engagements and teaching, publication of professional writings, and consultation with other researchers.

At the end of the 1982-83 year, the staff and associates of the Centre were as follows:

Core Staff

Donna Beaubien, Publications Officer
Roxanne Deyo, Secretary
Frances Harkness, Departmental Assistant
Saley Lawton, Departmental Assistant (on leave)
Marianne Leather, Publications Officer (on leave)
Brian W. Mackenzie, Interim Executive Director
Margot Wojciechowski, Assistant Director
David Yudelman, Senior Research Associate

Faculty Associates

Michel Bilodeau, Department of Mining and Metallurgical Engineering, McGill
Alan Green, Department of Economics, Queen's
Nancy Olewiler, Department of Economics, Queen's
Peter Richardson, School of Business, Queen's

In addition, many others have assisted the work of the Centre at various times. The contributions of David Green, Brian Felske, Peter Glenshaw, Cydney McMurray, and Joanne Napier are gratefully acknowleged.

CRS Publications

Following is a list of CRS publications available from:

Centre for Resource Studies
100 Barrie Street
Queen's University
Kingston, Ontario
K7L 3N6
(613-547-5957)

Monographs (Paperback)

Conflict and its Resolution in the Administration of Mineral Resources in Canada, by R.M. Burns

The Impact of the Mining Industries on the Canadian Economy, by R.W. Boadway and J.M. Treddenick

The Transportation Impact of the Canadian Mining Industry, by A.I. Wallace

Human Resources in Canadian Mining: A Preliminary Analysis, by J.A. MacMillan et al.

Health and Safety in the Canadian Mining Industry, by G.W. Gibbs and P. Pintus

The Canadian Nonferrous Metals Industry: An Industrial Organization Study, by E. Urquhart

Economic Impacts and Linkages of the Canadian Mining Industry, by P.E. Nickel, et al.

Environmental Impact of Mining in Canada, by E.A. Ripley et al.

Effects of Taxation on Base Metal Mining in Canada, by B.W. Mackenzie and M.L. Bilodeau

Gold: The World Industry and Canadian Corporate Strategy, by E. Cousineau and P.R. Richardson

The Impact of Policy Change on Decisions in the Mineral Industry, by B.E. Owen and W.J. Kops

The Role of Mineral Taxation in Industry/Government Conflict, by David L. Anderson

Profitability in the Canadian Mineral Industry, by Charles H. Pye

Working Papers

*1. *An Analysis of the Recent Federal Tax Changes Affecting the Canadian Mining Industry*, by Jean-Thomas Bernard

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CRS Perspectives

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Mining and procurement policies

by Ed Arundell, Abitibi-Price Inc.

During the last two years the Canadian resource sector has been troubled to learn of the legislative and regulatory head of steam building within the federal and provincial governments about private sector procurement and industrial benefit policies. These initiatives were based on the belief that governments could use corporate purchasing decisions as a major public sector lever in economic development.

Industrial development policies of this type are based on two assumptions. The first is a variation of the import substitution arguement, which holds that restricting imports will stimulate local production. Supporters of procurement policies argue that tied trade relationships dominate the purchasing patterns of major resource multinational corporations, and inhibit access for Canadian suppliers of equipment and services to project opportunities. Foreign-owned corporations compound the problem by their propensity to import from their home base. The overall result is a substantial trade deficit on natural resource equipment purchases. Any successful effort to change purchasing habits would therefore establish new manufacturing opportunities with accompanying employment benefits within Canada, and reduce import penetration levels in this area. This would in turn contribute positively to the balance of trade.

The second assumption underlying the federal government's procurement policy initiatives is the projected 'boom' in resource developments in Canada before the end of the century. The potential of major project activity affords the government an opportunity (some would argue even forces the government) to launch a major initiative to influence corporate purchasing patterns. By guaranteeing Canadian firms an equitable share of the domestic supply market, the government would maximize the industrial benefits flowing to Canada from large resource project developments. In the process they would also lay the foundation for an internationally competitive Canadian resource equipment and service industry capable of handling major project developments on a complete 'turnkey' basis anywhere in the world.

Background

While this article does not include a full survey of the historical antecedents of these policy initiatives, it will come as no surprise that developments in 1981-82 were the product of a cumulative process dating back to the mid-1960s.[1] Beginning in 1966 when the Minister of Trade and Commerce, Robert Winters, issued a set of 'Guiding Principles of Good Corporate Behaviour', the federal government has become increasingly interested in using private purchasing patterns as a tool of Canadian industrial development policy.

The opinions expressed are those of the authors, and do not necessarily reflect the opinions of the Centre or its sponsors.

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A major indication of this policy thrust surfaced in the Northern Pipeline Act (1978). Under this Act, the Foothills Group of Companies (now Nova) was required to submit a procurement plan to the Northern Pipeline Agency, illustrating how fair and competitive opportunities were to be guaranteed to Canadian suppliers. The response from Nova established a standard and a set of expectations that has become a model for federal government agencies.

Another major boost came with the National Energy Program (October 1980) and the enabling legislation, the Canada Oil and Gas Act (March 1982). Under this Act, applicants for exploration and development permits must submit, before the start of any work, a procurement plan which will provide 'Canadian manufacturers, consultants, contractors and service companies with a full and fair opportunity to participate on a competitive basis in the supply of goods and services used in that work or activity.'

In the same period the Major Projects Task Force (June 1981) endorsed the concept of using private sector purchasing for major resource projects as a tool of industrial policy. The Task Force even suggested that preference in procurement should be given in the following order of priority: 1) Canadian-owned firms; 2) Canadian-based firms; 3) others.

What focused the concerns of the mining sector on this issue was the establishment within the Department of Industry, Trade and Commerce in August, 1981, of the Office of Industrial and Regional Benefits (OIRB).

Governments' Initiatives

This group was formed to provide the federal government with the capability to identify and stimulate industrial benefits, especially in resource developments. OIRB also became the mechanism for advising the government on the industrial benefits provisions of the Canada Oil and Gas Act. OIRB's industrial benefit objectives and guidelines were extended to cover all major resource projects, including mining projects, in excess of $100 million. The only compulsory projects were oil and gas projects on Canada lands. Other resource projects were expected to comply 'voluntarily' with the OIRB guidelines.

OIRB has established two main objectives:

- to ensure Canadian suppliers have full and fair access to major project opportunities;
- to ensure steps are taken to develop and promote Canadian suppliers to meet project demands where economically warranted.[2]

Its overall goal is to see that 'no aspect of major project activity remains off-limits to Canadian firms.'[3] To accomplish these objectives OIRB consults with major project sponsors on their project needs, suggests changes to their procurement policies, encourages organizational changes for carrying out the policies and identifies areas of Canadian supplier strengths to the sponsors.

As part of the 'megaproject' policy initiative, the federal government's concern with private sector procurement patterns was also profiled in the November 1981 budget paper entitled *Economic Development for Canada in the 1980s*. The serious nature of the government's intentions was again underlined in the shake-up of federal departments in January 1982. The announcement of the realignment of the Departments of Industry, Trade and Commerce and Regional Economic Expansion drew attention to the new Office of Industrial and Regional Benefits and the fact that it would be strengthened. By early 1982 it seemed that the federal government was commited to an increasingly active role in this policy area.

At the same time, several provincial governments launched their own initiatives on procurement policies in the resource sector. While provincial public sector procurement policies were widespread, only a few provinces, Alberta and Saskatchewan, for example, had tried to influence private sector purchasing policies in any concerted manner.

In June of 1981 British Columbia released a document, *Procurement Policy for Major Project Development*. Notionally another 'voluntary' policy, these guidelines found their way into the province's procedures for granting approval for mine development and expansion, thereby raising some doubts about their 'voluntary' character. During this period Quebec and New Brunswick also announced their interest in developing some type of industrial benefits policy, while Ontario launched the Resource Machinery Development Centre in Sudbury, and was rumoured to be planning to support a mining equipment venture involving several major mining corporations in Northern Ontario. The process of policy diffusion and experimentation in Canadian provincial politics was clearly at work in the procurement field.

Industry Response

Industry responded to those initiatives with several institutional adjustments. Both the Canadian Petroleum Association and the Mining Association of Canada formed procurement and industrial benefits committees in order to monitor the progress of these initiatives and develop industry positions. Some corporations, especially those in the energy sector which are forced to deal directly with the Office of Industrial and Regional Benefits, established new staff units to deal with the evolving guidelines. Other corporations drafted new procurement policies or revised current purchasing practices. Official and unofficial representations were made to federal and provincial officials on the necessity for and effect of the new guidelines.

The mining industry in Canada has stated that it shares the objectives of encouraging Canadian manufacturing and service industries to supply major projects. There are sound reasons for supporting domestic sources of supply – such as familiarity of operating conditions, as well as enhanced delivery and servicing capabilities. But the industry has indicated to the federal government that it is wary of the current course of these procurement policy initiatives. There are at least three areas of contention according to the industry: the degree of government oversight; the dangers of overregulation and conse-

quent project delays; and the threat to international trading relationships and foreign investment.

There is insufficient space to discuss each of these points at length. However, the most serious concern for the mining industry rests with the effect of procurement and industrial benefits on our trading relationships. Canada's mining industry is a world trading industry overwhelmingly dependent on ready access to foreign markets. Consequently the industry is very sensitive to action which may invite retaliations, and deny access for Canadian exports. Similar domestic sourcing 'encouragement' under the FIRA process is the focus of serious concern for our major trading partner, the United States, and has spilled over into bilateral discussions on the implications of the OIRB and the industrial benefits guidelines. From an operating point of view, the Canadian mining industry also argues that it must have full access to international markets for technology, equipment and services in order to remain internationally competitive.

The Mining Association of Canada (MAC) has proposed to the federal government that the voluntary consensus system which MAC is developing is a preferred alternative to current government initiatives. Through different forums, partly sponsored by governments, suppliers and the mining industry are being brought together directly.

The Future

At present there is no clear resolution of this policy issue. The momentum of government initiatives has stalled. The recession, new political attitudes to the welfare of the private sector, the departmental reorganization at Industry, Trade and Commerce, opposition from the mining sector, and the difficulties of establishing a mandatory procurement program for the oil and gas sector have combined to provide some breathing space. The lack of any major new developments ($100 million plus) in the mining sector has also slowed the implementation of voluntary programs.

However, the political salience of import substitution policies cannot be denied, especially with a federal election on the horizon. The Office of Industrial and Regional Benefits still exists and is likely to be a major player in the new National Development Board being established in the remodelled Department of Regional and Industrial Expansion. And as the recovery continues, more major resource projects will be taken off the shelf, fueling the activity of the OIRB.

In the wake of the ongoing GATT negotiations, non-tariff barriers to trade are increasingly significant tools of industrial policy. The mining industry therefore cannot avoid dealing with the political implications of its purchasing policies.

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1 Adequate summaries of the antecedents can be found in Office of Industrial and Regional Benefits 'Mandate and Activities...' a brief prepared for the Special Committee of the Senate on the Northern Pipeline, Ottawa, September 15, 1982 and in Advisory Committee on Procurement Policies and Industrial Benefits, Mining Association of Canada, *Procurement Policy in Canada: Emerging Trends and their Impact on the Mining Industry* (Ottawa, January 1982).

2 'Mandate and Activities', p. 12

3 Ibid, p. 14

Crow benefits to mining

by Iain Wallace, Carleton University

Writing as the House of Commons Transport Committee begins hearings on the federal government's proposals to change the Crow Rate legislation (Bill C-155), it is premature to add extensively to Professor Law's commentary in the last issue of *CRS Perspectives*. The lobbying which has already produced an amended formula for channelling government payments for grain shipments is still active, and the final shape of the Bill may well differ from its current state.

At the heart of the ongoing dispute is whether future subsidies for grain movement should be paid entirely or substantially to the railways, or whether the bulk of the funds should be credited to the growers. The Wheat Pools are the principal advocates of the former position, which they regard as the mechanism most likely to maintain equity of shipping costs among their scattered producers and to preserve their existing network of rail-served primary elevators.

If, on the other hand, the transport subsidy were channelled to the growers, the way would be open for increased modal competition (truck/rail) for grain shipment and greater freedom of choice in the initial routing of grain flows. It is unlikely that the present geographical distribution of delivery points would be maintained under this regime.

Mining Viewpoint

Where do the interests of the mining industry lie in this situation? There is no doubt that the long distance haulage of both grain and minerals in western Canada represents traffic that is captive to the rail mode. As Professor Law notes, the mining industry thus has a direct interest in any change which contributes to the greater efficiency and enchanced capacity of the railway system.

His concern that mineral shipments will suffer because the railways will give higher priority to grain traffic once it is remunerative perhaps exaggerates the degree to which full cost recovery on grain shipments will be possible under the proposed legislation, and it may discount the systemwide improvement in rail performance which will follow from the investment he details.

The mining industry stands to benefit equally, however, from an upgraded and more competitive trucking system in the West. Up to a certain tonnage (and the figure can vary substantially depending on the terrain and length of haul) mines are no more captive to branch lines than are wheat farms. A number of recent developments in British Columbia point to a significant increase (aided by newly-raised vehicle weight limits) in the use of trucking to replace rail shipments or to provide cost-effective movement to a specific railhead.

This last point is given an added dimension by developments in the United States since 1980 in the wake of railway rate deregulation. One substantial potash flow by truck from Saskatchewan to a North Dakota railhead, which predates the U.S. legislation, in-

dicates the sort of arrangement which might prove a viable option for an increasing number of mineral shipments.

Overall, a revision of the Crow legislation which allows western farmers greater freedom of choice in shipping their grains is likely to appeal to mineral producers also.

Research Proposals Invited

CRS undertakes research internally in the mineral resource and policy areas, and also supports the work of outside investigators in these fields. Such support is given mainly through research contracts and grants-in-aid.

Application forms for grants are available on request and will be considered by the Research Advisory Committee. Researchers who are interested in participation in more extensive projects by contract or term appointment to CRS are invited to contact the Interim Executive Director, indicating their qualifications, research interests and specific study topics.

Readers' opinions

We welcome readers' comments on CRS *Perspectives*, or on allied topics, for possible publication. If you would like to receive CRS *Perspectives* regularly, send your name and address to: Centre for Resource Studies, Queen's University, Kingston, Ontario, Canada K7L 3N6, or telephone (613) 547-5957.

New Mines Minister?

The public's main concern about the resignation, after less than a week in the job, of the Minister of State for Mines, Roger Simmons, centred around why he did it. The concern of the industry, however, was more over who would replace him and even whether he would be replaced.

Most in the industry were sorry to see Mrs. Judy Erola leave the Mines portfolio. She represents a mining constituency and is recognized to have become knowledgeable about the industry and its problems. Moreover, she has a strong presence in the federal Cabinet, having attained the status of senior Minister in only three years, and no doubt will continue to show her concern for the industry in future Cabinet deliberations. Mrs. Erola's was the first appointment of a Minister of State for Mines, in 1980.

Roger Simmons, by contrast, was a virtual unknown in the industry, even in his home base, Newfoundland. We were unable to discover any evidence of participation by Mr. Simmons in debates on mining matters, either in St. John's or Ottawa, though he did address parliament about offshore oil and gas. Significantly, his stance on that issue was close to that of Jean Chretien, Minister of Energy, Mines and Resources, and not popular in Newfoundland.

The industry, then, was largely neutral to the resignation of Mr. Simmons, but concerned that Ottawa make another appointment, preferably a person of some standing in the Cabinet with some experience of the industry.

HAVE YOU HEARD ? ? ?

That legislation has been proposed in the United States Congress to prohibit the use of U.S. funds to assist with production of minerals in the less developed countries? This would apply only to minerals already in surplus supply, and whose production would cause substantial injury to the U.S. domestic mining industry.

A similar recommendation has been made for Canada in discussions between the industry and the federal government here. Preferential financing provided through CIDA and other federal agencies to support Third World producers in competition with Canadians has come under fire.

In neither the USA nor Canada is a blanket ban likely in the short term, but the issue is not likely to die either.

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That there may be a relationship between level of mining employment and company profitability? The President of the Australian Mining Industry Council, Hugh Morgan, pointed out recently that profitability has fallen as steeply as unemployment. He also complained that in some of the newer mines in the coal industry the government take of the operating surplus was an 'insupportable' 78 percent.

That Canada was recently ranked second among leading industrial countries for its endowment in natural resources and infrastructure? The European Management Forum, a Geneva-based research group, also ranked Canada high in human resources and the role of the state (3rd). The USA was ranked first in all these categories.

In other areas, Canada did not fare so well: industrial efficiency, 13th; socio-political consensus and stability, 14th; innovative forward orientation, 16th; and outward orientation, 17th. In overall competitiveness, Canada is ranked 6th, but in the area of business confidence, it is 12th of 22 countries.

The report lumps Canada with Australia, countries which combine immense proven and potential indigenous sources with good human resources, a relatively low population density and a state environment conducive to free enterprise. Clearly troubled by policies such as the NEP and FIRA, however, the report says Canada and Australia also share drawbacks: 'poor productivity and a distinct aversion to outward (internationally) economic ties'.

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New and Upcoming CRS Publications

Foreign Investment Control in the Canadian Mineral Sector: Lessons from the Australian Experience, *by David L. Anderson (price $15.00) (available late fall 1983)*

The Foreign Investment Review Agency (FIRA) has been the focus of a great deal of criticism over the years of its operation, from both economic nationalists who want its protection and foreign interests who wish to invest in Canada.

Foreign Investment Control in the Canadian Mineral Sector: Lessons from the Australian Experience, by David L. Anderson, takes a hard look at the philosophy behind control of foreign investment, particularly in the mineral industry, at the goals of such control and at the effectiveness of the Canadian approach.

Why, the author asks, is the Australian control system highly regarded while its Canadian counterpart is viewed with hostility and resentment. And this in spite of the fact that the Australian system of control seems more extensive and more rigorous than that of Canada. Drawing on theoretical analysis and practical experience, the author proposes changes to FIRA that are designed to both protect the interests of economic nationalists and satisfy the concerns of foreign investors.

Secondary Supply of Copper and Ferrous Metals and Canadian Metal Markets, *by Kenneth R. Stollery (price $15.00)*

Because of environmental and supply considerations, long-term reliance on secondary supply of metals is probably desirable. It is not clear, however, that Canada's national interest is best served at present by substituting scrap for primary metal since Canada is a major exporter of metals and concentrates.

In order to formulate policies to achieve some sort of balance between primary and secondary supply of metals, it is necessary first to examine the existing market structure for secondary metals and assess its effects on the market for primary metals.

In this study, the author concentrates on an examination of scrap markets for copper and ferrous metals is the USA, in order to determine their effect on the demand and price received for Canadian primary metal exports.

Such factors as technical characteristics of the scrap-using industry, the institutional structure of the markets for primary and secondary metals, and the responsiveness of scrap supply to changes in metal prices are all examined in detail to determine how they interact.

For those involved in production, marketing, or consumption of primary or secondary supplies of copper or ferrous metals, this study will provide an interesting insight into the mechanics of scrap metal/primary metal markets.

Prospects for Canadian Uranium, *by Stephen Salaff (price $7.00)*

Declining demand for uranium, stockpiling by uranium producers and increased production costs have led U.S. producers to cut back severely on uranium output. Meanwhile the more aggressive Canadian producers, encouraged by the market boom in the seventies and discoveries of low-cost deposits in northern Saskatchewan, have taken over the largest share of the world market. Competition for the reduced markets between producers in Canada has become so keen, however, that even joint venture partners in the same project are scrambling in rivalry for new contracts. Canada's position in world market depends not only on future developments in the U.S., but also on Australia, South Africa and other uranium-exporting countries.

In this study, Stephen Salaff analyzes factors affecting demand and prices of uranium. Included among these is the move toward protectionism in the U.S. Traditionally most of U.S. production has been used at home. Recently, however, because of high production costs, producers have preferred to use up their own stockpiles or even purchase users' stockpiles to honor their commitments rather than start new production. When demand catches up with the remaining supply the U.S. will have to either import new supplies or recommence production at a high cost. The inevitable rise in U.S. prices or an embargo or the threat of one would most certainly affect world prices.

Salaff also examines government roles in monitoring production and creating a favorable climate for stable uranium commerce, offering suggestions about how these roles could be clarified. In particular he calls for better understanding of the Canadian government system for uranium export contract review and approval.

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Centre for Resource Studies

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